of ammonia, liquefies when heated, being more fusible and less volatile than the ingredients separately, and concretes into a gray crystalline mass on cooling. The author then describes the property of several solutions of corrosive sublimate and sal-ammoniac, showing that the solubility of the compound salt exceeds that of the most soluble ingredient; and details some experiments illustrating the action of the muriates of baryta, magnesia, potash, and soda, upon corrosive sublimate.

On the State of Water and Aëriform Matter in Cavities found in certain Crystals. *By Sir* Humphry Davy, *Bart. P.R.S.* Read June 13, 1822. [*Phil. Trans.* 1822, *p.* 367.]

After adverting to the interesting phenomena connected with certain crystalline products of the globe, and showing that the Huttonian theory more plausibly accounts for their formation than the Wernerian, Sir Humphry proceeds to offer additional arguments in its favour, deduced from his examination of the aëriform and liquid matter contained in certain siliceous stones. The fluid was in all cases found to be nearly pure water; and the elastic fluid was pure azote, existing always, however, in a state of considerable rarefaction; namely, from 12 to 18 times more rare than atmospheric air. In the only two cases in which the relation of the bulk of the water to that of the void space could be ascertained, it was nearly as 2 to 1.

In the chalcedonies of basaltic rocks the gas was also azote, but it was 61 or 70 times more rare than atmospheric air, the quantity of water to that of void space being the same as in the rock crystal.

It occurred to the author that atmospheric air might have been originally included, and that the oxygen might have been absorbed by the water; and an experiment is detailed, the result of which proved favourable to such an opinion. None of the crystals of secondary rocks examined by Sir Humphry Davy were impervious to air; in these, therefore, atmospheric air was found of its usual density; this was even the case with the cavities in dense calcareous spar.

The President observes, in conclusion, that it appears difficult to explain the results obtained, unless by supposing the water and silica separated from each other at a very high temperature; at such temperatures a liquid hydrate of silica might exist under pressure, and like other liquid bodies in the atmosphere, it would probably contain small quantities of atmospheric air; and upon such a supposition, the phenomena presented by the water in rock crystal and chalcedony might be accounted for.